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OPIATE RECEPTOR ALLELES AND ALCOHOL DEPENDENCE

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Alcohol use is a major cause of morbidity and mortality and is less understood than other addictive disorders. Humans vary in alcohol responses which could be related to genetic susceptibility for alcoholism. The objective of the present study was to examine the prevalence of OPRM1 polymorphisms in addicts. The opioid receptor mu1 (OPRM1) mediates the action of morphine and is a major determinant of striatal dopamine responses to alcohol. Two polymorphism, C17T and A11G of exon I were screened in subjects with addiction to alcohol and opioids and compared with subjects without a history of any sort of drug addiction using restriction fragment length polymorphism, which was further validated by DNA sequencing. The allelic frequencies between the two groups were compared and the difference was found to be of statistical significant ($p< 0.0001$), with the 17T allele having a 3.06-fold higher risk of alcohol addiction (risk ratio (RR)=3.069, 95%CI of RR=2.0339 to 4.6127, odds ratio (OR)=3.9554; 95%CI of OR=2.4175 to6.4718) and 118G allele having a 1.81-fold higher risk of alcohol addiction (risk ratio (RR)=1.8096, 95%CI of RR = 13459 to 2.433, odds ratio (OR)= 2.2025; 95%CI of OR=1.479 to 3.2799). Similar differences were observed in the case of opiate addiction, RR=1.1369 to 2.7647, OR=1.9367; 95%CI=1.1625 to 3.2263 and RR=1.7363, 95%CI of RR=1.3043 to 2.3112, OR=2.0725; 1.42 to 3.0248) for 17T and 118G respectively. Further studies to unravel the epigenetic control of expression of these candidate genes are underway.

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